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Creating a Business Model for a Pharmaceutical Bank in Lisbon

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Abstract

The present Work Project highlights the problem of the market disequilibrium existing in the pharmaceutical industry, caused by the coexistence of both: overproduction (implied destruction costs), and the fact that many patients have insufficient purchase power. This Work Project develops a two-phase methodology to recognize best practices of social enterprises. The first phase is the elaboration of a questionnaire and the second is a one-on-one interview. The objective was to understand the range of action, the mission, and the structure of social enterprises. The research has shown that different social fields impose context-specific structures, a tendency to operate in a regional scale and seeking for social benefits rather than profit seeking. This Work project prepared a co-operative business model, reinforced by academic literature, attempting to reduce waste and correct market disequilibrium by reallocating products to underprivileged. The business model is designed under the premise of fostering sustainability and assumes responsibility to formulate a solution for market disequilibrium in different fields.

Keywords: Social enterprise, Pharmaceutical Industry, Social bank, Redistributive business models.

1. Introduction

The present Work Project intends to illustrate the problem of market disequilibrium in the pharmaceutical industry: the coexistence of both overproduction, which implicates destruction costs for laboratories, and the fact that many patients do not have the purchase power to acquire essential pharmaceutical products. The Work Project intends to reduce market disequilibrium and develops a model that re-balances this market through the concretization of win-win relationships embebbed with strategic partnerships and targets an empowerment of lower layers of society.

Article 25 of the universal declaration of human rights claims that: “*everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services*”. The pharmaceutical industry is essential to the welfare of the population and is entitled for providing goods and services considered vital. It is responsible for developing and producing pharmaceutical products for human and animal usage. This field assumes great relevance for society’s welfare, as a healthy condition of citizens enhances lifestyle, satisfaction and lifelong productivity (Burton, 1999).

During the last decade, the impoverishment of many urban areas experienced the emergence of various innovative initiatives (C. Borzana & J. Defouny) and it is possible to identify several social enterprises operating in different fields (e.g. food Industry, scholar books, etc.). The goal of this type of social enterprise is the association of two social weaknesses that coexist in the same market: overproduction on one side and lack of access to basic services among lower layers of society. In order to strengthen policies to support the underprivileged to reduce barriers to people’s access, the delivery of basic services is a key step for poverty reduction (Berry, 2004) and several social enterprises are focused on creating a linking channel to overcome or, minimize this disequilibrium.

The scope of the present Work Project is limited to solutions that correspond to the needs of the Lisbon area, while the business model presented intends to harmonize the economical disequilibrium existing in the pharmaceutical market by aiming the reduction of waste and its allocation among a social system that will provide access to pharmaceutical products to underprivileged and providing guidelines for future interventions on this field.

2. Problem Identification

Economic downturn and globalization pressure have diminished the ability of governments to deliver effective social services (Ketl, 2000). The public state has not succeeded in resolving problems of poverty and social exclusion that have increased throughout recent period (Mendel & Nogales, 2009). Social concern is determining new approaches for value creation (J. Dees, 1998) and the development of business models following resourced-based-view logic. The legal framework of the pharmaceutical industry follows highly regulated requirements that can be seen through certificates of quality or certificates of accomplishment corresponding to good distribution practices¹.

It is important to remember that pharmaceutical products are exposed to systematic quality control tests due to their vitality in society and some can only be administrated according to specific medical prescription which confers a specific characteristic to this market. As a consequence, the final user has no influence during the decision process and the price of the prescribed product might be out of his purchasing capacity. A wide range of spill-overs may elapse from this situation: (1) ideological, as it privies citizens from a common fundamental human right, (2) social, as the lack of access to health care decreases the quality of life and (3) economical, as it exponentially increases hospital costs².

According to an estimate (Internal Report Bank of given goods) performed by Entrajuda (Association for Support of Nonprofit Institutions), about 20% of Portuguese population is under a condition of poverty threshold, meaning that they receive the minimum level of income deemed adequate (Ravallion & Martin, 1992). Another study (Internal Report

¹ This fact must be recognized by the national authority of medicines and health products (Infarmed)

² *More patients admitted for lack of medicines*, Jornal Sol, 2nd February, 2012.

Food Bank³) reveals that 40% of the answers (the answers belong to people aided by institutions – people in need) *cannot afford pharmaceutical products or must postpone its purchase due to financial reasons*. Great Lisbon area has around 2 Million people, if it is considered that 20 % are under poverty threshold it represent 400.000 people. Assuming that 40% of them delay their treatment for financial reasons, the final dimension of the problem, in Lisbon area, respects around 160.000 people.

The overproduction of pharmaceutical products is, in contrast, still one of the major problems in this industry. An existing commercial practice imposes that pharmaceutical products can no longer be commercialized if they reach 6 months prior to expiry and are, thus, removed from the market. Some of these products are posteriorly destroyed. This process carries increased costs for laboratories and other related health care agents. Although it was not possible to determine the overall dimension of this problem, some numbers provided by Profarin (Portuguese wholesaler) show that near 0, 3% of total units' traded (See Appendix 1) are posteriorly destroyed. The previous fact reveals that a considerable amount of products are still in good conditions when sent to destruction, and could be used, at no increase cost for the supply side (in fact it decreases destruction costs and reduces the risk involved), to meet underprivileged people needs.

These facts prove *per se* the existence of market disequilibrium and provide an incentive to intervene. Through the settlement of logical business reinvention, it is feasible to propose a business model that succeeds in harmonizing the market disequilibrium over the Pharmaceutical Industry. The arising awareness of this market disequilibrium and related positive feedbacks from health care agents in Portugal (see Appendix 3) means that the problem is not being neglected, but so far it subsists.

³ Internal report of the food bank reveals that it serves 74.106 people in Lisbon.

3. Benchmarking

3.1 International Overview

The increasing awareness of societies has derived from the triggering of social enterprises, as it has provided an impulse for the creation of social targeted institutions in various fields of action. This growing imperative to address poverty has led to a number of new broad-based proposals from the developed world (Lodge, 2002) and drives initiatives that involve large corporations such as Pfizer or Merck aiming for good reputation as result of corporate social responsibility strategies. Despite this fact it is more likely to find non-governmental organizations operating in this field. Operating at a multinational level are for example the Medicine Bank, the Global Hand, and MJKJ Foundation , that operate under the premise that *“third world countries often lack the financial means and access to medical supplies necessary to sustain or improve their quality of life”* (MJKJ Foundation) and perform this harmonization process at a global scale. There are several organizations that prove to re-balance the health care market from a transnational level, e.g. the United Nations has a plan for drugs and food supply in case of war or natural disasters.

At a national level it is possible to find in other countries numerous organizations that attempt to re-balance pharmaceutical market, like the pharmaceutical bank in Chile or in Italy⁴. In Brazil, the field experience of Bank for Management and Sustainability states that the pharmaceutical bank is the one that presents higher and more urgent demand.

3.2 Portuguese Overview

The research performed allowed to compile a list of 26 social enterprises operating in Portugal that commonly attempt to provide the harmonization process described in

⁴ Italian Pharmaceutical Bank was a pioneer in this field and both Spanish and Portuguese banks are a replication of this business model.

several social fields that (see Appendix 4). The specific inherent tasks of these social enterprises vary from their method of collection, logistics, handling, mission and delivery systems. This result in a wide range of structures that vary on: human resources employed, structure, commodity stocking needs and sustainability of the specific core business. Furthermore these initiatives can operate at regional or national level and perform this balancing effect at different scales (see Appendix 3 for practical examples).

It is possible to observe in the specific example of the pharmaceutical industry the appearance of local initiatives that attempt to re-establish the market equilibrium. These attempts range from local pharmacies level, local municipalities and political parties (e.g. Municipality of Santa Comba Dão or the Community Center of Carcavelos). These attempts relay the collection premise on withdrawal of pharmaceutical products from the outside of the commercial circuit (e.g. patient died or changed treatment) and the product is ‘donated’. These enterprises in Portugal failed to target the biggest portion so far, as they only target the consumer side, rather than the industrial sector. Despite these attempts are praiseworthy, the methodology goes against the decree law number 176/2008 of the Statute of Medicine⁵ as it is impossible to certify how products were handled outside of the commercial circuit (pharmaceutical product’s lifecycle and respective commercial circuit can be seen in Appendix 5).

In the recent years, two different models arised under national context: the appearance of the Pharmaceutical Bank, in 2009, which has the mission to aid people in need through the collaboration and involvement of communities and an appeal for donation – it targets pharmacy users, as they are induced to buy products for charity *in loco* –, and

⁵ Decree law number 176/2008 of the Statute of Medicine - transposing the European Union legislation which revision marks a profound change in the field of medicine and impedes any pharmaceutical product that left the commercial circuit to be donated.

the creation of the new Medicines Bank, December 2012, as consequence of the Portuguese Social Emergency Plan⁶ release by the Government. This last initiative has been launched in Lisbon in an exclusive partnership with the Holy Houses of Mercy and proves to drain industrial overproduction (withdrawing pharmaceutical products before they are destroyed after being removed from the commercial circuit) to serve elderly in need (no purchase power) of essential prescription drugs. Both models comply with legal framework and technical requirements imposed by Infarmed. The above mentioned cases represent several cases of social enterprises that attempt to re-distribute pharmaceutical products, onto different levels, chasing the goal of harmonization market disequilibrium in the pharmaceutical industry. The recent activity and results obtained by both initiatives reveal the need to act urgently to solve this problem.

4. Literature Review

Social enterprises are part of a new welfare mix in which both governments and citizens cooperate in the co-design of new forms of social service provision (Ascoli and Ranci, 2002). This typology seeks to reverse policy as regards the state's role in the delivery of health and social services (Duff, 2011). Social enterprises present particular strong points compared to other types of organizations notably as regards the mobilization of resources, satisfying certain needs and fighting social exclusion (Borzana & Defouny, 2004). This trend seems to be redefining the obstacles that have prevented businesses from providing services to lower layers of society. Schumpeter⁷ refers that entrepreneurs are adjusting their business models to deal with the age of austerity. This is reinforced by a higher awareness that the bottom of the pyramid

⁶ This plan (from 2011) states that pharmaceutical products that were previously outside of the commercial circuit by less than six months to complete its expiry date will be distributed freely to elderly through accredited institutions safeguarding rules of legal security complying with legal framework

⁷ *The Bottom of the pyramid*. The economist, 23rd June, 2011.

market (BOP) is achieving, BOP in the context of developed economies means the relative poverty that is experienced by the lower end of the income scale (Brueckner, 2010). This socio-economic derivation presents negative consequences for health state (Townsend, 1987). In order to create locally embedded BOP strategies, it is firstly important to have a deep dynamic understanding of the specific local context (Chambers, 2007) and act accordingly. It is possible to identify various social enterprises that lead for inspired models of value creation (Selos & Mair, 2005) trying to solve neglected social problems by using alternative and innovative approaches, transforming mentalities and societal dynamics, empowering and involving community and stakeholders (Dees, 1998). Social enterprise is based on the concept of aiming to serve members of one community rather than generate profit. This type of enterprise is characterized by a sector where organizations are established by people on a voluntary basis to pursue social, charitable and community goals.

The creation of a pharmaceutical bank is embraced to social benefit it is possible to identify and frame this Work Project in a co-operative business model according to the definition provided by the UK Department of Trade and Industry. A Co-operative business model can be defined by its internalized social orientation, democratic governance (Brown & Murphy, 2003) and entrepreneurial activity intrinsically related to philanthropic roots (Duff, 2008), it is activist-friendly and revolution-ready (Shaffer, 2005). Chesbrough (Chesbrough, 2006) proposes a six step formula for the elaboration of a business model: (1) articulate the value proposition, (2) identify the market segment, (3) define the structure of the value chain, (4) estimate the cost structure and (5) describe the position of the firm within this network in order to (6) formulate a dynamic competitive strategy. This Work Project will propose in section 8 a specific

business model for the creation of a pharmaceutical bank, following the 6 proposed tasks and contextualize the model to the specific needs of the pharmaceutical industry.

5. Methodology

In order to formulate the business model, the Work Project develops a specific methodology to understand best practices of social enterprises operating in several fields. In numbers, the research allowed to observe the existence of 26 social enterprises in different fields, 21 operating nationally. The first phase of the methodology was the elaboration of a questionnaire that has been delivered to 15 enterprises (only 14 respondents). This number characterizes over 50 % of the entire population, which grants a solid base for benchmarking. The purpose of this questionnaire is to identify the best practices and to filter key activities⁸ for a better understanding of the business model and key resources used.

The second phase was performed through a visit and a one-on-one interview to 6 institutions, from which 5 have been performed to national enterprises. This number is result from a mixed analysis of the first phase in what regards: mission, range of action and the classification of the commodities. The second phase is a deeper market research in order to strengthen the business proposal and provide a real-insight analysis. The objective is to identify how these structures are organized and what are the inherent inbound and outbound logistics, infrastructures needed and human resources employed. It intends similarly to understand the methods used by social enterprises to address both recipients and donors. The questionnaire (Appendix 6) and results of both phases of the

⁸While discarding social initiatives from a deeper analysis, it is important to mention that it does not mean that qualitative rating is low but that some structures social enterprises are more adequate to the business model proposed, due to its intrinsic conditions (essential market, commodities, context and approach).

methodology were treated and categorized (see Appendix 7 and 8). In order to benchmark the model proposed according to best-practices it is important to take into account the theoretical background of section 3. With a purpose of a more dynamic and specific approach, several contacts were performed with both Spanish and Italian pharmaceutical banks, but did not proceed as it was not possible to reach relevant information.

6. Value Proposition and Strategic Objectives

The Work Project intends to provide a co-operative business model that attempts to reduce waste of pharmaceutical products and correct the market disequilibrium in the pharmaceutical Industry by reallocating products to underprivileged people. This proposal is based on the best practices and adapted to input provided by the models researched. The result is the creation of a hybrid structure that is able to drain the overproduction from the industry sector at the same time that effectively appeals for individual donation and creates awareness for the problem (e.g. through the Journey of drug-donation) engaging communities and aiming people in need, reaching greater social benefits. Furthermore, the business model promotes a more equitable access to basic services and enhances commitment for social causes, on a long term perspective these efforts attempt similarly to teach communities to donate instead of waste.

The impact in the overall market is hard to measure, but an increase on basic services access across lower layers of society is likely to increase overall productivity and distress financial pressure for other demand and improve lifestyle, alleviating disadvantaged population (Amit & Zott, 2011). In parallel, this Work Project intends to provide, both Portuguese Medicine Bank and Portuguese Pharmaceutical Bank,

pathways for the improvement of their mission and provide a subset of activities and specific strategies that reinvent the value capturing logic within the pharmaceutical industry. The next section of this Work Project is to identify key performance indicators and best practices of the social enterprises studied and understand their *modus operandi*.

7. Data Analysis & Key Performance Indicators

7.1 Mission

Typically, these social enterprises collect from the supplier side and deliver over the demand side which leads these enterprises to be named ‘banks’. The mission of these enterprises is often related to an attempt to reduce waste or to improve community sharing, correcting market disequilibrium for basic services. Social banks differ from commercial banks as they do not operate under a profit-earning goal. These banks instead of commercial banks, rather than profit seeking, aim to alleviate non-development conditions in society.

Best practices usually follow a common pattern setting for the structure of enterprises: (1) elaboration of a direct collection process of surplus on the supply side of the market; (2) or an appeal for consumer donation (3) and the creation of an internal logistical structure to process collected products. The final step (4) is the handling, distribution and reallocation of commodities among aided institutions.

7.2 Market Segment

The results of the methodology display the tendency of social enterprises to operate in a regional scale in order to provide more efficiency while providing their services. Social enterprises are mainly divided in the following functions: Financial and

Administrative support; facilities and equipment needed; public relations and external image; volunteer coordination; stocking and collection functions; distribution and technical (in case it is needed). This type of social enterprises typically locate themselves as an intermediary from the industry by rearranging the flow chart of the market, avoiding waste, and reallocate to institutions that serve people in need.

7.3 Defining Structure of the Value Chain

Several tasks are required to be performed internally after the collection process and before its delivery to aided institutions: (1) reception of the product; (2) subdivision by segment of commodities and by hangar, (3) assisted by bureaucracy and back-office activity while (4) arranging the orders, and (5) preparation of respective shipment.

Concerning Human Resources department it was noticeable the fact that paid personnel does not depend on the business volume but rather on the tasks necessary to perform the service. It is common to find volunteer work force these structures in all phases of the process as an attempt to engage communities and reduce costs. Governance is also an important factor to benchmark to propose an effective system of administration but the research process was not successful in this field as it was not possible to reach relevant information, meaning that does not provide an insight to any particular system of administration. It is feasible to recommend the governance to be performed by a board of volunteers and align the mission and value proposition to the present structure (Maranville's, 1999), granting transparency and independency in the decision process. Theoretical background reveals a tendency for a variety of requisites of the board in order to correctly address particular circumstances of each individual enterprise (Bradshaw, 2000) that overcome other types of leadership in social enterprises.

7.4 Estimate Cost Structure

The emergence and rapid growth of social enterprises has created a new financial market to respond to the need for capital to finance these enterprises (OECD Report) and also for financial innovation, developing a customized financial sector (Nicholls and Pharoah, 2007). It is unlikely to find social enterprises performing such type of activity and charging for the provided services to users, although they exist⁹.

The tasks mentioned in the previous section generate all range of back office supplies that present regular residual costs. It was possible to observe, given the specific conditions of social enterprises, large differences on their cost structures. The need for equipment and handling processes of collected products implies the need for compulsory human resources that by principle are volunteers, although many exceptions exist. A common setting for these enterprises is the continuous search for diminishing costs following a resourced-based logic which guides social banks to diverse their strategies of fundraising. Typically this activity results in the generation of a network of Maecenas that directly funds office suppliers, Human Resources and essential costs. The key for this challenge is to create dynamic partnership and diverse fundraising as premises to a consistent financial solution and financial sustainability.

7.5 Position of the Enterprise within this Network

A well designed business model is likely to be highly situational and its processes are likely to involve iterative processes, while new business models can both facilitate and represent innovation (Teece, 2010). Based on the cyclicity of the collection process it is possible to fragment strategies of different social enterprises as it is hard to compare the

⁹ Note: Animal blood bank charges a fee to owners of recipient animals; and the current initiative of the pharmaceutical bank charges a fee of 60€ to adherent pharmacies on the Journey of drug-donation.

time needed to redistribute food (perishable commodity) to the time needed to redistribute one piece of clothing (nonperishable) and the handling provided cannot also be compared while treating different commodities as a book (no handling needed) or a computer (needs technological supervision, repair, and also presents higher regular costs to the bank). Concluding, different sectors impose different structures and bottlenecks.

It is important to coordinate activities with donors and recipient institutions to align them with managerial requirements on what concerns: tracking and delivery systems, to proceed for a sustainable partnership. Common practices suggest that the recognition of a partnership assumes the existence of a first contact and one visit to the recipient institution, to confirm all regulatory requirements. Once these tasks are all overcome, a protocol is signed between entities. Best practices impose also the alignment of these institutions and the final result is a straight-forward network that creates and captures the added value generated by the model, respecting all legal frameworks.

7.6 Formulation of a Competitive Strategy

A model that seeks both efficiency and awareness by attempting to collect both individual donations and industrial overproduction is a reference for other banks. This hybrid strategy intends to reduce waste while at the same time promotes the feeling of charity and raises awareness for the problem in question. The majority of the models screened revealed that they target only one side, except the exemplary case of the food bank that will be taken into consideration in the formulation of the business model.

One of the challenges that usually face these initiatives is the creation of (sustainable) partnerships. Best practices suggest the elaboration of a list of possible arguments for kick-starting one relationship with key partners. Through the exploration of win-win

situations as (1) the appeal for a donation receipt¹⁰, (2) strain for a common effort on reduction of product destruction and implied costs, (3) the creation of friendly communities through networking and involvement of the organization that increases brand reputation and visibility – these strategic arguments have largely reached positive results. Other factors that can help to involve donors are: corporate social responsibility policies, brand recognition and awareness that may arise from this participation.

8. Business Model Proposal

The implementation of a Pharmaceutical Bank ought to start in a relative small area (regional level). Attending to the concentration of pharmaceutical laboratories; stocking possibilities and proximity to wholesalers which guarantees rapid transportation, it is possible to choose one area to pilot this project. In order to propose a valid test in a small scale for a controlled experimentation (that allows a more efficient monitoring activity), the area of Lisbon¹¹ is, in consequence, the most adequate region for the pilot of the pharmaceutical bank. The implementation of a pharmaceutical bank (see appendix 4 to understand the positioning of the model) implicates the proactive participation of pharmacies in order to return products quickly once they reach 6 months to expiry date. Laboratories are also entitled to donate their surplus in a regular-basis (section 7.6 explains how to address this challenge). To simplify this process, Infarmed must also grant efficiency and promptness in accepting all donation processes.

For a purpose of efficiency and differentiation from previous models, the business model targets all types of pharmaceutical products: generics; medical devices, drugs

¹⁰ This payment process favors donors as the value of the transaction can be deduced from taxes. This compensation on taxes represents a monetary added value for the donor organization, according to the decree law 108/2008 of the statute of tax benefits (See Appendix 9 for the decree law).

¹¹ The level of demand and greater awareness were also taken in account while formulating this choice.

subject to prescription, drugs non-subject to prescription and also relevant dermocosmetics. This statement intends to create a dynamic structure that aids people who cannot acquire essential products for specific diseases or subclinical situations, meeting the goals proposed as it reduces waste and reallocates collected products originating societal surplus. Reducing waste is desired at the maximum level possible in order to impose efficiency levels as tracking devices of pharmaceutical bank activities.

The business model here proposed settles a hybrid structure that seeks both parts of collection: individual donation and draining of the overproduction. In case this implementation succeeds: both demand and supply curves for pharmaceutical products are steady which implicates that this process only occurs if it exists demand and that this specific demand cannot be satisfied through traditional market. The society as whole benefits both economically, as laboratories reduce their risk and costs and obtain financial compensations, and societal as lower layers of society meet their needs and improve their health state and consequent spill-overs as defined in section 2. It is important to restrain the quantity of donations occurred in order to avoid abuses from laboratories. At this stage it is fundamental to define that the pharmaceutical bank is not only responsible for collecting the pharmaceutical products as it is also responsible for allocating them accordingly, and on time, among recipient institutions complying with the legal framework (e.g. Good distribution practices and Infarmed approval).

It is utopic to plan zero-cost for all the activities performed by the bank but a continuous search for cost reduction is imperative. Pharmaceutical bank is advised to fundraise among strategic partners and follow a continuous search for alternative funding: *pro-bono* services and concession of donation-receipts (see Appendix 9 for legislation): management system; volunteer work, transportation, stocking, back-office supplies,

communication costs with partners, handling material and others in order to optimize a low cost strategy. A charged fee from pharmacies, that participate in the annual journey of drug collection, like is in practice by the pharmaceutical bank in Lisbon is recommendable to finance back-office activities. It is important to create engagement from all the involved parties through the settling of clear objectives and development of sustainable relationships. This process intends to coordinate and simplify the relationship between the enterprise and the institution and must guarantee that recipient institutions are providing services adequately. It is important to note that only valid institutions can receive products – as the delivery phase to the final patient must be supervised by a legal pharmacist.

Best practices (e.g. food bank or bank of equipment) demonstrated the benefits of a well-designed management system fully integrated capable of managing all activities like: delivery periodicity and timings, stocking units and references, volunteer coordination, partners' priorities evaluation and respective tracking activities, main needs and services provided. It is recommendable the usage of an effective management system which implicates high efficient back-office activity on synchronized activities and in constant communication with all institutions, donors and distributors. It is fundamental that this system is updated and coherent with reality in order to support its mission. This last aspect assumes relevance in the prevention of fraud and abuses. Distribution plays a pivotal role in the process and the process is recommended to follow traditional channels (already in usage) of the pharmaceutical products and the possibility of using a segment of a loft must be considered as an attempt to reduce costs. This small loft can be a compartment inside the facilities of a wholesaler in Lisbon (e.g.

Profarin) whereas the facilities fulfill all law requirements already and thus present no relevant increased costs.

The pharmaceutical bank does not perform a quality test on collected products as they are assumed to be appropriate (note: the products did not leave the commercial circuit) until their expiry dates and meant to be in perfect conditions of safety and quality. The pharmaceutical bank is responsible for labeling different categories of products. After the products are labeled they are posteriorly: registered, endorsed, prepared and ordered for redistribution. Perishable products have a faster chain model and the expiration date must be taken into consideration while categorizing the products. The existence of many references imposes its division by several smaller hangars to divide them by categories - this separation should segment pharmaceutical products either by active pharmaceutical ingredient or according to the relevance of treatments in order to create a flow while preparing institutional packages, avoiding the creation of bottlenecks. Despite that pharmaceutical products come in full packages it is recommended to separate it in mono-doses according to the single service being provided¹² respecting good practices. The previous fact and best practices suggests that pharmaceutical products should be picked up directly by aided institutions, in case it is not possible, transportation to recipients is dealt case by case with institutions in order to minimize costs. It is important to remember that best practices suggest the validation of all partnerships to align them with the mission and structure. Empirical models suggest relaying the activities performed by the social enterprise on volunteers, to perform all range of tasks. Recruitment and volunteer coordination must be adapted to the bank's embedded culture and aligned with the mission. The bank is supposed to recruit adequately to

¹² It is important to highlight that the model delegates for institutions the administration and regulation of the products given, although feedback is required concerning the destination of the products collected.

avoid lack of workforce needed to guarantee the service is provided in the required deadlines and respecting safety features. Appendix 2 proposes a team dedicated to the specific tasks including indicatory tasks.

This Work Project follows a mission-driven concept and a social entrepreneurial philosophy as it expects to explore gaps left by regulations or rules (Welter, 2010) in order to reach greater social benefits. The present business model proposes to reach 50,000¹³ pharmaceutical products, per year, in Lisbon area, and redistribute it among around 100 direct aided institutions¹⁴. This process implies the creation of stable partnerships with: laboratories, wholesalers, pharmacies, distributors and institutions. The overall impact given the characteristics of pharmaceutical products is difficult to measure but it will ultimately empower these institutions. A sustainable solution will reduce overall health care costs in this segment and optimize the management system of the society as a whole, at no relevant increased cost for society.

9. Conclusions

This Work Project presents an evaluation of the pharmaceutical industry in Portugal and highlights the importance and urgency of society's needs for pharmaceutical products. The work project intends to prove that this problem is a social imperative in the pharmaceutical industry and proposes a business model that attempts to empower the overall society, benchmarked on several social enterprises with expertise in different social fields (social enterprises operating internationally, nationally and at regional local level) and based in academic literature. It is important to refer that the business model proposed meets all legal, contextual and financial requirements. Although the project is

¹³ *Circa* 20% of the products sent to destruction, per year, in one single institution (Profarin).

¹⁴ There are over 1,000 social institutions in Lisbon area (target = 10% of the entire population).

centered in Lisbon, it must seek to collect surplus at a national level and prepare a trail for expansion to other urban centers to meet local demands. In case the business model proves to enhance social benefits to local populations it is important to provide suggestions for the replication of the phenomenon. One key to foster its dissemination is through reliability on local entrepreneurship, given the specific knowledge and local connection to the networks (Banerjee & Duflo, 2006), suggesting the creation of a Federation, responsible for their tutoring and coordination, that homogenizes and aggregates pharmaceutical banks and acts as one voice.

To conclude, the process is designed under the premise of an on-going necessary reevaluation to foster sustainability and it assumes also responsibility for gathering data to formulate more elaborated future approaches to solve these social problems derived from market disequilibrium in different areas, which implies that if the model succeeds it becomes potentially attractive and re-usable in different social fields.

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Appendixes

Appendix 1 – Profarin numbers concerning destruction of pharmaceutical products

Period	Jan-May 2012	2011	2010
Units returned	85.791*	237.126	240.501

*Only 5 months considered

Appendix 2 – Recommendation of volunteer force for the Pharmaceutical Bank

Function	Job Task
Secretary	Provide administrative support and prepare office supplies, together with the head of the bank is responsible for monitoring the management system, responsible for the emission and handling of invoices ¹⁵ .
Public relations	Actively communicate with laboratories, provide relevant press releases to raise visibility and to raise sponsorships (for the sustainability of the bank).
Head of bank	Responsible for receiving, labeling and shipment/delivery of pharmaceutical products to recipient institutions – these activities are assisted by volunteer work to organize and distribute collected products.
Account manager	Responsible for the acceptance of institutions, further coordination and communication, responsible for volunteer coordination and regular monitor-visit to institutions. Responsible for collecting data for the management system prioritization.
Pharmacist	Responsible for regulatory affairs involved, evaluation of patients being served, guarantee of certificates and features, labeling the pharmaceutical products collected and responsible for technical communication with pharmaceutical labs.

¹⁵ Invoices should include all data concerning the pharmaceutical bank, the recipient institutions, the quantities shipped, references, batch of validity and respective weights.

Appendix 3 – Health Care entities feedback about: the problem and appearance of social

Entity	Title	Link
ANF (national association of pharmacies)	ANF considers positive the creation of a medicine bank	www.rtp.pt/noticias/index.php?article=467709&tm=2&layout=123&visual=61
Infarmed (national authority of medicines and health products)	Underprivileged especially elderly can already recur to the medicines bank	www.aeiou.pt/quiosque/banco-de-medicamentos-e-formalizado-hoje
Apifarma (represents more than 120 pharmaceutical laboratories)	APIFARMA collaborates with the creation of a solidarity medicine bank	www.apifarma.pt/salaimprensa/noticias/Paginas/APIFARMAcolaborana%20cria%C3%A7%C3%A3odaBancodeMedicamentossolid%C3%A1rio.aspx
Social Security	Protocol for the formalization of the medicine bank	www.cmjornal.xl.pt/detalhe/noticias/nacional/saude/protocolo-para-formalizacao-do-banco-de-medicamentos
Holy house of Mercy	Medicine bank for the underprivileged elderly will be activated in December	www.portugal.gov.pt/pt/os-ministerios/ministerio-da-solidariedade-e-seguranca-social/mantenha-se-atualizado/20121109-msss-banco-do-medicamento.aspx
Medicine Bank	Medicine bank for free Medicine bank for the underprivileged elderly will be activated in December	www.cmjornal.xl.pt/noticia.aspx?contentID=AB69D625-5E63-47A4-8D0A-1E5E630AB23A&channelID=00000021-0000-0000-0000-000000000021 www.apifarma.pt/Documentos%20ENews/LUSA_BancoMedicamentos_09112012.pdf www.diariodigital.sapo.pt/news.asp?id_news=600916
AAF	Banco Farmacêutico promoveu recolha de medicamentos	www.ordemfarmaceuticos.pt/rof96/files/assets/basic-html/page49.html
Pharmaceutical Bank	Website current initiative pharmaceutical bank	www.bancofarmaceutico.pt
Other related news	Title	Link
Almofariz award	Almofariz award goes for the pharmaceutical bank	www.o-povo.blogspot.pt/2012/05/premio-almofariz-para-o-banco.html
Medicine Bank	Medicine bank has collected 11.000 packages to underprivileged elderly	www.sicnoticias.sapo.pt/vida/2012/12/01/banco-de-medicamentos-ja-tem-11-mil-embalagens-para-idosos-carenciados-diz-ministro
Social emergence plan	Medicine bank is formalized today	www.mmclip.com/Pdfftp/11549273_4_2151_apifarma.pdf and www.mercadosocialarrendamento.msss.pt/docs/programa-de-emergencia-social.pdf

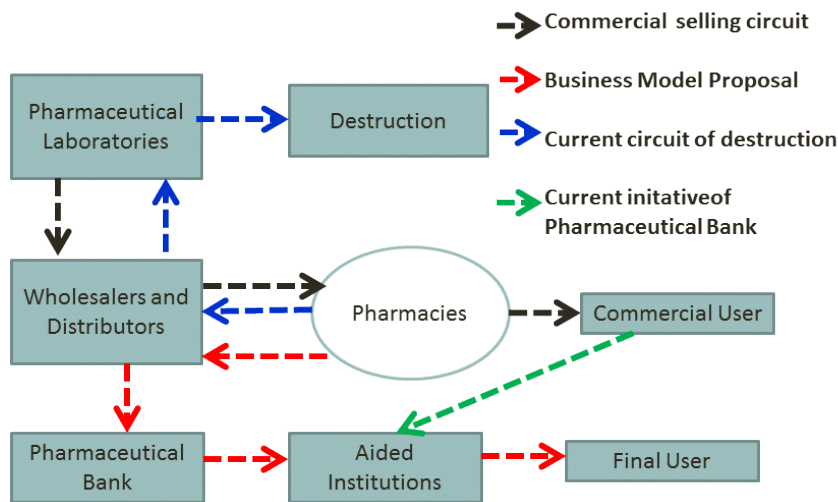
Examples of previous national initiatives to redistribute health in Portugal	Link
Municipality of Santa Comba Dão – creation of a medicine bank	www.cm-santacombadao.pt/index.php/pt/informacao-municipal/noticias/880
Community center of Carcavelos	www.centrocomunitario.net/
Municipality of Cascais	www.cm-cascais.pt/area/promocao-da-saude
Individual pharmacies' initiatives all over the country	N/A

Appendix 4 – Screen of Social Enterprises in Portugal performing

Animal Blood Bank	Blood Bank	Humana Portugal
Bank for Given Goods	Sperm Bank	Movement for used Books
Bank for Social Useful Goods	Book Bank	Organ and Transplantation Bank
Bank of Building Materials	Cell Bank	Pharmaceutical Bank*
Bank of Collective Meals	Clothing Bank	Residuals Bank
Bank of Furniture	Computer Bank	School Material Movement
Bank of Human Tissue	Databasis Bank	ReFood
Bank of Public Works	Equipment Bank	Umbilical Cord Bank
Bone Marrow Bank	Food Bank	Volunteering Bank

* Similar business models in Spain, Italy, Portugal, Brazil and Chile.

Appendix 5 – Pharmaceutical Industry business scheme



Appendix 6 – Adapted version of delivered questionnaire to Social Enterprises



Universidade Nova de Lisboa – Questionnaire *modus operandi* Social Banks

Bank Questionnaire _____

This questionnaire takes about 10 minutes and has the sole purpose of providing information concerning the operations of Social Banks involving collection; redistribution and reallocation of goods and services for commercial and non-commercial purposes. The information provided will be used to develop this study and will have no secondary purposes.

1. Concerning the collection process of the bank:
 - a. Under what frequency is it performed
 - b. What is the method used
 - c. Who is targeted
 - d. The initial structure of the bank was maintained
 - e. There are other sources of collection
 - f. What are the main requisites for being donor
 - g. What are the main requisites for being a recipient
2. Concerning the bank creation
 - a. What was the initial objective
 - b. What is the dimension of the problem
 - c. What was the expected impact
 - d. There are control measures and tracking of activities
3. Concerning the redistribution logistics (collection, stocking, personnel and treatment, ...)
 - a. What sources are needed
 - b. What are the specific requirements
 - c. What facilities are needed – human and material
 - d. What outsource services are used
 - e. There is specific legislation that regulates the activity of the bank
 - f. Why was this model chosen
4. Concerning the functioning of the bank:
 - a. How is it performed
 - b. Do the beneficiaries pay for the goods/services? In case your answer was yes, how is defined this value?
 - c. What are the fixed costs inherent to the bank activity
 - d. What was the initial investment necessary for starting the activity
5. Additional Information

Questionário Tese André Oliveira Martins

Appendix 7 – Summary of the answers of the questionnaire

Entity	Commodities	Mission	Observations
Animal Blood Bank	Non-perishable	Guarantee an excellent product prevent from healthy and controlled animals.	National level
Bank for social utility goods	Non-perishable	Tackle basic needs according to a rapid, efficient and broaden approach.	Regional level
Bank of given goods	Non-perishable	Double objective: effort on reducing waste and empower work of NGO's and environment	National level
Bank of stem cells and umbilical cord	Non-perishable	Reduce Waste	National level
Bio-bank – IMM	Non-perishable	Contribute to public health promotion and society welfare	Currently in the starting phase
Bone Marrow Bank	Non-perishable	Tackle basic needs according to a rapid, efficient and broaden approach	National level
Equipment Bank	Non-perishable	Reduce Waste	Regional level
Food Bank Portugal (Lisbon)	Perishable	Reduce Waste	Regional level. Federation at national level.
Movement for used books	Non-perishable	Reduce waste. Reuse is preferable than recycle.	Regional level
Pharmaceutical Bank Brazil	Perishable	Help poor people by providing medicines and health products	Regional level
Pharmaceutical Bank Italy	Perishable	Help poor people by providing medicines and health products	Regional level
Pharmaceutical Bank Portugal	Perishable	Help poor people by providing medicines and health products	Regional level
Pharmaceutical Bank Spain	Perishable	Help poor people by providing medicines and health products	Regional level
Sperm Bank	Perishable	Provide excellence in medical education about infertility and donor sperm	International level

Note: The food bank, equipment bank and bank of given goods belong to the Association Entrajuda and operate in similar premises

Appendix 8 – Summary of interview phase

Entity	Human Resources	Facilities	Equipment
Food Bank	Yes, 1 per function	1 loft	Machinery, leasing of vans, back office equipment
Bank for social utility goods	3 workers and 12 volunteers	1 office and 1 loft	Leasing of vans and office supplies at <i>pro-bono</i>
Bank of given goods	8 workers and 40 volunteers	1 office and 1 loft	Machinery, back office equipment and a van
Biobanco – IMM	8 workers	1 laboratory and related facilities	Informatics hardware, archive and processing equipment
Equipment Bank	8 workers and 40 volunteers	1 office and 1 loft	Machinery, back office equipment and a van
Portuguese Pharmaceutical Bank	1 part-time worker	Not needed	Outsource of services at <i>pro-bono</i>

Appendix 9 - Statute of tax benefits on Corporate Income Taxes

Corporate Income Tax (IRC) – Donation of non-food products can be deducted from IRC based on the article 62 of the statute of tax benefits: donations are considered costs or exercise losses until a limit of 8/1000 of sales business volume of the donor firm

Source: www.portaldasfinancas.gov.pt